Rise in water level of oceans due to global warming

1749. SHRI RAJKUMAR DHOOT: Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether it is a fact that snow covered area of North Pole has shrunken to 4300 kilometers and likely to shrink further to 3100 kilometers in next four years due to global warming the consequence of which will be rise in water level of oceans around India sub-merging of coastal areas and drying up of rivers;

(b) if so, whether the situation been assessed;

(c) if so, the details thereof; and

(d) the steps proposed to be taken up by Government to prevent loss to lives and property?

THE MINISTER OF EARTH SCIENCES (SHRI KAPIL SIBAL): (a) Yes, Sir. It is a fact that sea ice around North Pole is melting at an alarming rate. North Pole that lies at the center of Arctic Ocean is surrounded by frozen sea ice. Much of this frozen sea ice in the arctic, normally melts each summer and rebuilds in the following winter season. However, due to the global warming, the rebuilding of ice is not coining back to its original levels, because of which the recovery is not complete.

Many studies using passive microwave data, have established that average September sea ice extent for the period 1979-2000 which stood at 7.09 million Sq km has been reduced by 39% at the and of melt season in September, 2007. The average sea ice extent for the month of September, 2007 at 4.28 million sq km, has been the lowest September, figures ever recorded so far. The Arctic sea Ice extent on 23rd September, 2008 was at 4.59 million sq km. the sea ice is getting thinner and hence more vulnerable to melting in subsequent summer.

(b) and (c) Sea level rise as a product of global warming, takes place through two main processes, melting of the land ice and thermal expansion of sea water due to rise in sea surface temperatures. Based on the tide gauge data, the rate of sea level rise during the 20th century has been found to be in the range of 0.8 to 3.3 mm per year with an average of 1.8 mm/year.

(d) The rise in the sea level due to melting of sea ice around North Pole is not expected to be sudden or abrupt. However, to safeguard the interests of large section of population living in the coastal areas, Government has set up a network of tidal gauges all along the Indian Coast to monitor the sea level.

Vision and mission of NIOT

1750. DR. K. MALAISAMY: Will the Minister of EARTH SCIENCES be pleased to state:

(a) the vision and mission of National Institute of Ocean Technology (NIOT);

(b) how much of its objectives are achieved, alongwith the highlights of its achievements and performance;

(c) how does it compare with other similar organizations in advanced countries; and

(d) what are the ills and evils that are preventing the growth and development of this Institute?

THE MINISTER OF EARTH SCIENCES (SHRI KAPIL SIBAL): (a) The vision and mission of National Institute of Ocean Technology (NIOT) is targeted towards development of world class technologies and their applications for sustainable utilization of ocean resources by implementing projects including ocean science and technology development for islands for the welfare of coastal population, on mission mode.

(b) The targeted objectives set forth during Tenth Plan in the area of energy and freshwater from sea. deep sea mining, coastal and environmental engineering, marine instrumentation and ocean observation systems and ocean science and technology for islands were accomplished. The highlights of the major accomplishments are (i) the commissioning of 1 lakh litre per day desalination plant in Kavaratti, Lakshadweep; (ii) demonstration of 1 million liter per day capacity barge based offshore plant off Chennai; (iii) design, development and demonstration of an underwater crawler with a riser up to a depth of 450 m off Goa; (iv) development of Remotely Operated Unmanned Submersible (ROSUB-6000) tested at a water depth of 250 m(now tested up to a depth of 1100 m); (v) design, development and demonstration of deep sea soil tester at a depth of 5200m; (vi) development of state of the art acoustic tide gauge and setting up of Acoustic test facilities; and (vii) establishment of observational network for tsunami warning system in the fault zone and the tide gauges.

(c) The advanced countries like Japan, USA, Russia, Germany, France etc. develop their underwater technologies by institutions catering to their specific needs. There is no umbrella institute like NIOT which deals with the entire domain of underwater technology development both for shallow water and deep water to meet the countries requirements. The question of comparison, therefore, does not arise.

(d) The institute has made significant achievements and shown tangible results in various identified projects on mission mode from time to time. The design, development, demonstration of underwater technologies (shallow and deeper waters) requires longer time and experienced manpower. As a new growing institute, the technical manpower are getting trained through various collaborative projects with technology transfer. There are no such ills and evils that are preventing the growth and development of this Institute at this stage.

Installation of Doppler Weather Radars for monitoring cloud burst

1751. SHRIMATI VIPLOVE THAKUR: Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether it is a fact that Doppler Weather Radar are being used by India Meteorological Department (IMD) for monitoring cloud burst;